

Appl. No. : 10/697,401
Filed : October 29, 2003

REMARKS

Claims 1-29 are currently pending. Claims 23-26 are withdrawn. Claims 1, 12, 18 and 27 are amended herein.

Elections/Restrictions

Applicants hereby affirm the election, without traverse, of the invention of Species 2, Claims 1-22 and 27-29.

Rejections Under 35 U.S.C. §102

Claims 1-22 and 27-28 are rejected under 35 U.S.C. §102(e) as being anticipated by Goodman, U.S. Publication No. 2003/0198910. Claims 27-28 are rejected under 35 U.S.C. §102(b) as being anticipated by Halpin et al., U.S. Publication No. 2001/0054390.

Applicants respectfully disagree that Claims 1-22 and 27-28 are anticipated by Goodman. Nevertheless, Claims 1, 12, 18 and 27 have been amended to clarify that the recited veins are angled with respect to a radial direction. These amendments are fully supported by the specification as originally filed, at, for example, paragraph [0050].

Goodman discloses a susceptor 200 having a pocket surface with a grid structure formed by evenly spaced, square-topped protrusions 222. The Goodman grid structure is not a plurality of veins, and does not display the angled orientation recited in amended Claims 1, 12, 18 and 27.

Amended Claims 1, 12, 18 and 27 are therefore patentable as they are not anticipated by Goodman. Claims 2-11, 13-17, 19-22 and 28, which depend from and include all of the limitations of Claim 1, 12, 18 or 27, are therefore also patentable over Goodman. Furthermore, each of the dependent claims recites further distinguishing features of particular utility.

With respect to Claims 27-28, Halpin et al. do not disclose or suggest veins being angled with respect to a radial direction from a center of the ring, as recited in amended Claim 27. As shown in Fig. 23A of Halpin et al., the grooves 615b identified by the Examiner as “veins” are all arranged in a radial direction from the center of the ring, not angled with respect to a radial direction from a center of the ring. Claim 27, as amended, is therefore patentable as it is not anticipated by Halpin et al. Claim 28, which depends from and includes all of the limitations of

Appl. No. : 10/697,401
Filed : October 29, 2003

amended Claim 27, is therefore also patentable. Furthermore, Claim 28 recites further distinguishing features of particular utility.

Rejections Under 35 U.S.C. §103

Claim 29 is rejected under 35 U.S.C. §103(a) as being unpatentable over Halpin in view of Yudovsky et al., U.S. Patent No. 5,985,033. Applicants respectfully disagree that Claim 29 is unpatentable over Halpin et al. in view of Yudovsky et al. As discussed above, Claim 27, as amended, is patentable over Halpin et al. because Halpin et al. do not disclose or suggest substrate holder having an annular ring of veins configured to support a substrate, wherein substantially all of the veins are angled with respect to a radial direction from a center of the ring.

Yudovsky et al. do not teach or suggest substrate holder having an annular ring of veins configured to **support** a substrate of a particular size, wherein each vein is generally parallel to two adjacent veins, substantially all of the veins being angled with respect to a radial direction from a center of the ring. In Yudovsky et al., the “deflection member 100 may be oriented in the same horizontal plane as the upper surface 32 of the support member 30, as shown in FIG. 3, or positioned slightly below the upper surface 32 to provide a greater space between the grooves 106 and the restricting member 110.” Yudovsky et al., at Col. 7, lines 40-45. However, in Yudovsky et al., the annular deflection member 100 is not configured to **support** a substrate. The deflection member 100 is provided to direct “the flow of gas so that it flows at an angle to the radial direction of the substrate” to create “a protective wall of gas about the edge of the substrate 14.” As shown in FIGS. 1-6 of Yudovsky et al., the deflection member 100 is positioned below and **outside** the radius of the substrate 14 supported by the support member 30. As noted in Col. 5, lines 54-58 of Yudovsky et al., “[t]he deflection member 100 is positioned about the support member 30 so that a substrate 14 placed and properly aligned on the upper surface 32 of the support member 30 is positioned **within** the inner diameter of the deflection member 100.”

The gas flow through the grooves 106 of Yudovsky et al. is not meant to extend over the substrate at all; rather, the grooves 106 are angled precisely to **prevent** the gas, which flows **inwardly**, from extending over the substrate. “Thus, rather than flowing radially toward the center of the substrate 14, the flow of the gas flows only over the area proximal the edge 18 of the substrate 14 forming a protective wall of gas that preferably flows no more than about 0.42

Appl. No. : 10/697,401
Filed : October 29, 2003

inches over the substrate 14. The gas wall is annular in shape due to the angled flow of the gas.” Col. 7, lines 21-26. This motivation is not applicable to elements configured to support the substrate, since veins supporting the substrate could not guide gas into a peripheral annular wall protecting the substrate.

The art of record contains no teaching or motivation to adopt the angled orientation of Yudovsky et al.’s “deflection member 100” in a support element as claimed, nor specifically in the spacer ring 615 of Halpin et al. The shape of the grooves 106 in Yudovsky et al. are chosen for directing an *inward* gas flow into an annular wall, a motivation that is not applicable to a support structure under the substrate. Thus skilled artisan would not have applied the curved elements in Yudovsky to a support structure such as the spacer ring 615 of Halpin et al.

Claim 27, as amended, is therefore patentable over Halpin et al. and Yudovsky et al., either alone or in combination. Claim 29, which depends from and includes all of the limitations of amended Claim 27, is therefore also patentable over Halpin et al. and Yudovsky et al. Claim 29 also recites further distinguishing features of particular utility.

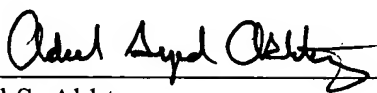
Conclusion

Applicants respectfully submit that all of the pending claims are patentably distinguishable over the prior art of record. The cited references, either alone or in combination, do not teach or suggest Applicants’ claimed invention.

Respectfully submitted,

KNOBBE, MARTENS, OLSON & BEAR, LLP

Dated: January 4, 2006

By: 
Adeel S. Akhtar
Registration No. 41,394
Attorney of Record
Customer No. 20,995
(415) 954-4114